

What is claimed is:

1. An apparatus for retrieving a color and a shape of an image based on a natural language, comprising:

5 a dictionary storing means for storing a dictionary used for processing a natural language;

 a color/shape threshold storing means for storing color histograms mapped to color related words and edge information corresponding to shape related words;

10 a query input means for receiving a query sentence which describes the color and the shape of the image by using a natural language;

 an analyzing means for analyzing the query sentence based on the dictionary information and generating analyzed words;

15 a color/shape recognizing means for recognizing whether the analyzed words represent the color or the shape;

 a color/shape threshold database constructing means for mapping and storing color histograms to color related words and storing edge information corresponding to shape related words;

20 a color/shape threshold retrieving means for retrieving the color histograms and the edge information corresponding to the analyzed words from the color/shape threshold storing means; and

 a retrieving result output means for providing image data searched in the color/shape threshold retrieving means.

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2. The apparatus as recited in claim 1, wherein if there is no color histogram and edge information satisfying requirement for the analyzed words, the color/shape threshold database constructing means receives threshold of the color and the shape from the user and stores the thresholds into the color/shape storing means.

3. The apparatus as recited in claim 1, wherein the color/shape threshold constructing means maps the word representing the color to the color histogram, and stores the word representing the color mapped to the color histogram, the word not representing the color but reminding the color along with the corresponding color histogram and the edge information corresponding to the shape related word.

4. The apparatus as recited in claim 3, wherein the color/shape recognizing means automatically recognizes requirements based on qualification relation and patterns analyzed in the natural language processing means.

5. A method for searching a color and a shape of an image based on a natural language, comprising the steps of:

a) storing dictionary used for processing a natural languages, color histograms mapped to color related words and edge information corresponding to shape related words;

b) analyzing a query sentence which describes the color and the shape of the image by using the natural language, based on the dictionary and generating analyzed words;

5 c) recognizing whether the analyzed words represent the color or the shape;

d) retrieving the color histograms and the edge information corresponding to the analyzed words from the color/shape threshold storing means; and

10 e) providing a retrieved image to the user.

6. The method as recited in claim 5, further comprising the step of:

15 f) if there is no color histogram and edge information satisfying requirement for the analyzed words, receiving and storing thresholds of the color and the shape from the user.

7. A computer readable recording medium storing instructions for executing a method for searching a color and a shape of an image based on a natural language, the method comprising the steps of:

a) storing dictionary used for processing a natural languages, color histograms mapped to color related words and edge information corresponding to shape related words;

25 b) analyzing a query sentence which describes the color and the shape of the image by using the natural language, based on

the dictionary and generating analyzed words;

c) recognizing whether the analyzed words represent the color or the shape;

d) retrieving the color histograms and the edge information
5 corresponding to the analyzed words from the color/shape
threshold storing means; and

e) providing a retrieved image to the user.

8. The computer readable recording medium as recited in
10 claim 7, further comprising the step of:

f) if there is no color histogram and edge information
satisfying requirement for the analyzed words, receiving and
storing thresholds of the color and the shape from the user.